

REMARKS

1. Summary of Telephonic Interview

Initially, Applicant would like to thank the Examiner for the time taken and courtesies extended during the brief telephonic interview on July 29, 2004, discussing the status of the present claims as being “finally” rejected. As was discussed during that interview, Applicant is of the belief that the present claims were improperly rejected as final in a first office action following a Request for Continued Examination.

Under the rules in the MPEP, a continuing application from an earlier application may be finally rejected on a first office action if all claims in the new application (1) are drawn to the same invention claimed in the earlier application, and (2) would have been properly finally rejected on the grounds and art of record in the next Office Action if they had been entered in the earlier application. MPEP 706.07(b), *emphasis added*. Thus, in determining whether a final rejection is not premature, the Examiner must first establish that the claims in the continuation application are for a different invention than the one claimed in the earlier application, and then must show that the claims are anticipated by the same art on the same grounds. Failure to establish either element means that the final rejection was premature, and should be withdrawn.

In this case, the claims rejected by the Examiner as final were drawn to a different invention than the prior claims, and thus were improperly and prematurely finally rejected. The prior set of claims (“the Prior Claims”), consisting of Claims 1-20, was finally rejected by the Examiner on May 23, 2003. In response to that final rejection, Applicant filed a Request for Continued Examination on November 24, 2003, which added new Claims 21-34 (“the RCE Claims”). The Prior Claims included Claim 1, which claimed, *inter alia*, a flat storage element that includes a binding agent that is “crystal clear,” and a storage particles that consist of a

“transparent” salt material. The RCE Claims include Claim 21, which claims, *inter alia*, a flat storage element and storage particles that are both “crystal clear.” Thus, at the very least, the language of Claim 21 is different than the claim language of Claim 1.

Additionally, as was explained to the Examiner in the telephone conversation of July 29, 2004, by specifying that the storage particles in Claim 21 were also “crystal clear,” Applicant was specifying an invention that was materially different than flat storage elements that are merely “transparent,” as in Claim 1. Transparent is defined as “admitting the passage of light, and of clear views of objects beyond.” STANDARD DICTIONARY OF THE ENGLISH LANGUAGE, Funk & Wagnalls, p. 1335. Thus, any material that allows a viewer to clearly see the object beyond may be defined as transparent. This includes colored glass, transparent soaps, one-way mirrors, etc. Crystal clear, on the other hand, means clear like a crystal, with no color distortion, no absorption of light waves, and no scattering of light. In essence, a crystal clear structure is a sub-set of transparent structures, defining a very specific property of transparent structures.

The difference between a transparent material and a “crystal clear” material is highlighted in the specification. On Page 12-13 of the specification, the transparent binding agent materials are discussed and disclosed in detail, with potential materials disclosed in Table I, and their refractive indices shown in Fig. 4. On Page 13 of the specification, it is specifically stated that not all of the transparent materials are crystal clear, when it is pointed out that “the binding agents which are crystal clear are provided additionally with a star” in Fig. 4. Thus, the “crystal clear” binders are specifically delineated as a sub-set of the “transparent” binders outlined in Fig. 4 and Table I.

By adding Claim 21, having “crystal clear” storage particles, the RCE Claims specified an invention that was not claimed in the Prior Claims, since Claim 1 only claimed “transparent”

storage particles. Thus, Claim 21 comprised a new claim to the application (along with dependent claims 22-34), and the first prong of the MPEP test on proper final rejections cannot be met. The RCE Claims, therefore, were prematurely rejected as final by the Examiner.

Notwithstanding the premature final rejection, due to the time constraints on the present application, Applicant has submitted a RCE application to continue the prosecution of the application.

2. Status of the Claims

Prior to the current response, Claims 1-34 were pending in the application. Applicant has cancelled Claims 5, 13, and 16, amended Claims 1, 12, 14, 15, 17, and 21, and added new Claims 35-38. As will be explained further below, Claims 1, 15, and 21 have been amended to specify that the storage particles and binding agent are optically isotropic, while Claim 12 has been amended to specify that the binding agent is prepared in a highly liquid state by heating. Claims 14 and 17 have been amended for form. Claims 35-38 have been added to specify preferred embodiments of the present invention, and to provide alternative claim language wording.

3. Rejection Under 35 U.S.C. §103

The Examiner has rejected Claims 1-34, under 35 U.S.C. §103(a), based on the contention that they are unpatentable over one or more of U.S. Patent No. 5,693,254, issued to Sieber et al (Sieber '254) in view of U.S. Patent No. 5,391,884, issued to Sieber et al (Sieber '884) and U.S. Patent No. 4,733,090, issued to DeBoer et al (DeBoer '090); Sieber '254, Sieber '884, and DeBoer '090 in view of U.S. Patent No. 4,944,026, issued to Arakawa (Arakawa '026); or Sieber '254, Sieber '884, and DeBoer '090, in view of Arakawa '026 and U.S. Patent No. 4,835,396, issued to Kitada et al (Kitada '396). Applicant continues to traverse the Examiner's

rejections. Notwithstanding the traversal, Applicant has amended the claims above to better clarify the invention. As amended, Applicant submits that the remaining claims are not taught, disclosed or suggested by the prior art.

Of the pending Claims, Claims 1, 15, 21, 36, 37, and 38 are in independent form. Claims 12 and 32 comprise method claims for producing the storage elements claimed in Claims 1 and 21, respectively. Therefore, the Examiner's rejections will be addressed relative to these claims specifically.

Claims 1, 21 and 36 disclose and claim a flat storage element according to the present invention. Claims 15, 37 and 38 disclose methods for making such a structure. Previously, Claims 1 and 21 (along with Claim 15) disclosed a flat storage element which included a binding agent and storage particles, with Claim 1 claiming, *inter alia*, a binding agent that is crystal clear and storage particles consisting of a transparent salt material, and Claim 21 claiming, *inter alia*, a binding agent and storage particles that are both crystal clear. Claims 1 and 21 have both been amended to additionally specify that the refractive indices of the storage particles and the binding agent are isotropic, i.e. they are optically isotropic. Claim 36 (along with Claims 37 and 38) specifically recites such a structure. Isotropic materials have uniform optical properties in all directions. In the flat storage elements of the present invention, these uniform optical properties help to eliminate deleterious optical effects such as scattering, and help to ensure the clean and accurate reproducibility of the x-ray image. Heretofore, such a structure has not been shown in the prior art.

None of Sieber '254, Sieber '884, or DeBoer '090 show an x-ray storage element having isotropic binders and isotropic storage particles, in combination with the other elements of Claims 1, 21 and 36. The Examiner had previously identified that DeBoer '090 discloses the use

of a substantially isotropic phosphor, but DeBoer '090 fails to disclose the use of an isotropic binding agent. In fact, DeBoer '090 discloses a process by which an isotropic binding agent could never be used. Specifically, DeBoer '090 discloses the process of selecting an isotropic phosphor particle, and then matching the refractive index of the binding agent to the phosphor by mixing two binding agents together. What DeBoer '090 failed to recognize, however, was that by mixing the two binders together, DeBoer '090 necessarily created an anisotropic material. Basically, two binders mixed together cannot cure to form an optically isotropic structure, even if thoroughly mixed.

Additionally, given the disclosure of DeBoer '090, there is no motivation or suggestion to add an isotropic binder to the structure. In fact, DeBoer '090 fails wholly to recognize the problems created in resolution and scattering from the inclusion of an anisotropic binding agent.

Similarly, Sieber '254 and Sieber '884 also fail to disclose an isotropic structure for the binding agent and the storage particles. In fact, the Sieber references disclose a structure that could never include isotropic storage particles. The phosphor particles disclosed in Sieber '254 crystallize in a tetragonal I system (Col. 14, Line 32). Tetragonal I systems are optically equal in the a and b directions in the elementary cell, but are not optically equal in the c direction. Thus, because Sieber discloses a Tetragonal I crystal system, it cannot include an isotropic binding agent and isotropic storage particles, as claimed in the present invention. In fact, Sieber '254 discloses an anisotropic crystal structure with a refractive index of 1.63 in the a and b directions, and 1.68 in the c direction.

Based on the above, Applicant submits that none of the cited references, either alone or in combination with one another, disclose a storage element as disclosed in the present invention.

4. Conclusion

Independent Claims 1, 15, 21, and 36-38 should now be in condition for allowance. Therefore, reconsideration and passage to allowance of Claims 1, 15, 21, and 36-38, along with dependent claims 2-4, 6-12, 14, 17-20, 22-24, and 26-35, is respectfully requested.

Should anything further be required, a telephone call to the undersigned, at (312) 226-1818, is respectfully invited.

Respectfully submitted,

FACTOR & LAKE, LTD.

Dated: July 29, 2004



Jacob D. Koering
One of Attorneys for Applicant

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on July 29, 2004.

Jacob D. Koering

